

On-Farm Irrigation

PUBLICATION

Surface Irrigation

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About this Publication:

Surface Irrigation is the sixth in a series of water management hand books developed by the University of California Irrigation Program. The authors would like to gratefully acknowledge the funding provided for this project by the U.S. Department of Agriculture Water Quality Initiative and the California Energy Commission.

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Introduction:

Surface irrigation is the most common irrigation method in California. Types of surface irrigation include furrow, border, and basin irrigation. Surface irrigation involves flowing water across the soil surface, thus using the soil to convey water along the field length. This results in a low capital cost. However, using the soil surface to convey water across the field introduces problems in its design and management. Both design and management depend to a high degree on the soil properties such as infiltration rate and surface roughness. These properties can be difficult to measure thus requiring a trial-and-error approach to develop proper design and management strategies.

This manual addresses various aspects of the design and management of surface irrigation systems to help irrigators better understand the complex behavior of these systems. The information in this manual is based on the field experience of University of California irrigation specialists and farm advisors. Because furrow irrigation is the most common surface irrigation method, this manual emphasizes furrow irrigation.

This handbook, which draws on the field experience of University of California irrigation specialists and farm advisors, is intended to help water managers use surface irrigation. Designed as a practical guide, it explains how to make water infiltration more uniform and improve overall irrigation efficiency.

Questions or comments:

Any questions about the manual or about surface irrigation can be directed to the authors:

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